

Patent Claims

1. A method for providing a control channel (BCCH) in a radio communication system, in which one or more channels (K1, K2, K3, K4) which form the control channel (BCCH) are assigned to a base station (BS) in order to transmit control information (oi), at least one synchronization sequence (cp, cs) is transmitted by the base station (BS), the channel or channels (K1, K2, K3, K4) corresponding to the selection of one or more synchronization sequences (cp, cs) and/or to the order of a plurality of synchronization sequences (cp, cs), a subscriber station (MS) which receives at least one synchronization sequence (cp, cs), the subscriber station (MS) determines the configuration of the control channel (BCCH) on the basis of the recognized synchronization sequence (cp, cs) which designates the channel or channels (K1, K2, K3, K4), and/or on the basis of the recognized order of a plurality of synchronization sequences (cp, cs).
2. The method as claimed in claim 1, in which the configuration of the control channel (BCCH) relates to a variable number of channels (K1, K2, K3, K4) which are designated by time slots (ts) and/or spread codes (c) or a combination of scrambling code and code designating the channel.
3. The method as claimed in claim 1, in which the configuration of the control channel (BCCH) relates to a variable number of channels (K1, K2, K3, K4) which are designated by a combination of scrambling code and code designating the channel.
4. The method as claimed in one of the preceding claims, in which

coding of the configuration of the control channel (BCCH) by means of the selection and/or order of the synchronization sequences (cp, cs) extends over a plurality of time slots (ts).

- 5 5. The method as claimed in one of the preceding claims, in which the synchronization sequences (cp, cs) are transmitted in time slots (ts) in which the channels (K1, K2, K3, K4) of the control channel (BCCH) are also arranged.
- 10 6. The method as claimed in one of the preceding claims, in which the synchronization sequences (cp, cs) are transmitted with less power than the control information (oi).
7. The method as claimed in one of the preceding
15 claims, in which the synchronization sequences (cp, cs) are unmodulated orthogonal gold codes.
8. The method as claimed in one of the preceding
20 claims, in which the synchronization sequences (cp, cs) and control information are transmitted in time slots (ts) which are part of a TDD transmission arrangement with broadband channels, one or more time slots (ts) per frame (fr) being used for the synchronization.
9. The method as claimed in one of the preceding
25 claims, in which a plurality of base stations (BS) is synchronously assigned a time slot (ts) for transmitting the at least one synchronization sequence (cp, cs),
adjacent base stations (BS) using a different time
offset (toff) with respect to the start of the time
30 slot (ts) for transmitting the synchronization sequence (cp, cs), and
the time offset (toff) corresponds to the selection of
one or more synchronization sequences (cp, cs) and/or
the order of a plurality of synchronization sequences
35 (cp, cs).

10. The method as claimed in one of the preceding claims, in which two synchronization sequences (cp, cs) are transmitted in one time slot (ts).

11. The method as claimed in claim 10, in which a
5 time interval (tgap) is predefined between the two synchronization sequences (cp, cs) in one time slot (ts).

12. The method as claimed in one of the preceding claims, in which further information is transmitted by
10 the base station (BS) by means of a selection of synchronization sequences (cp, cs) and/or their order.

13. The method as claimed in claim 12, in which the further information relates to a frame synchronization and/or midambles used by the base station (BS) and/or
15 spread codes (c) and/or a scrambling code.

~~14.~~ A radio communication system providing a control channel (BCCH),
having at least one base station (BS) for transmitting control information (oi) and at least one
20 synchronization sequence (cp, cs),
having a control device (RNC) which assigns one or more channels (K1, K2, K3, K4) which form the control channel (BCCH) to the base station (BS) in order to transmit the control information (oi), the channel or
25 channels (K1, K2, K3, K4) corresponding to the selection of one or more synchronization sequences (cp, cs) and/or the order of a plurality of synchronization sequences (cp, cs),
having a subscriber station (MS) for receiving and
30 evaluating the at least one synchronization sequence (cp, cs),
having evaluation means (AUS) which are assigned to the subscriber station and which determine the configuration of the control channel (BCCH) on the
35 basis of the recognized synchronization sequence (cp, cs) which designates the channel or channels (K1, K2, K3, K4) and/or

the recognized order of a plurality of synchronization sequences (cp, cs).

[illegible]